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Dr. Peters.
M. Plantamour.
W. Pole, Esq.
Prof. Quetelet.
Lieut. H. Raper.
W. Rathbone, Esq.
M. Reslhuber.
Capt. Shadwell.
Rev. R. Sheepshanks.
J. J. Sylvester, Esq.
Thos. Tate, Esq.
R. Taylor, Esq.
Sir W. C. Trevelyan.
M. Villarceau.
H. Warburton, Esq.
J. A. Welton, Esq.
T. T. Wilkinson, Esq.
Lord Wrottesley.
Mr. J. Williams.

Address delivered by the President, G. B. Airy, Esq. F.R.S., Astronomer Royal, on presenting the Medal of the Society to the Rev. William Rutter Dawes.

I have now to state to you, Gentlemen, that the Council have this year awarded the Medal of the Society to the Rev. William Rutter Dawes for his various astronomical works; and I take the opportunity of accompanying this statement with the following remarks.

A science so extensive as ours will necessarily present for the consideration of the Council, in the adjudication of the Medal, subjects of very different classes. We have sometimes to examine the difficult mathematical investigations of gravitational astronomy, and sometimes the less profound, though more bulky, calculations connected with the ordinary conduct of an observatory. We must sometimes balance the formal and dry labour of meridional observations against the less regular, but more interesting, work of extrameridional and micrometrical investigation. We must not estimate lightly the successful inventor of astronomical instruments; still less must we omit to recognise, in a science where everything depends on the connexion of past, present, and future, the important services of the literary astronomer. Finally, while we may sometimes hold ourselves bound to consider a single work of short duration, but of great merit, as demanding our best acknowledgment; in other cases we are equally required to extend our view over a long series of years, and to appreciate the duration as well as the specific excellence of an astronomer's labours. Thus it will usually happen that the subjects to which our Medals are adjudged, in the course of several successive years, have little similarity in their character or extent. The subject of the present medal differs in some respects from any which has been brought before you for a considerable time.

Mr. Dawes has been known for nearly a quarter of a century as a zealous private cultivator of astronomy, by extra-meridional and micrometrical observations. Distinguished as Mr. Dawes has been by an extraordinary acuteness of vision, and by a habitual,

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and (as I may say) contemplative precision in the use of his instruments, his observations have commanded a degree of respect which has not often been obtained by the productions of larger instruments. The first of his observations were made with a 5-feet telescope, of about 3 inches aperture; a few with a 7-feet Newtonian: subsequent observations have been made with Mr. Bishop's equatoreal and with a fine 6-inch Munich telescope. A part of these observations have been published in Mr. Bishop's volume, and a part in the *Memoirs* and *Monthly Notices* of this Society.

A large portion of the observations consists of measures of double stars. The first are two measures of ζ *Cancri* in 1831. These are followed by measures of 121 stars from 1831 to 1834, of 100 stars from 1834 to 1839, and of about 250 stars (in Mr. Bishop's volume) from 1839 to 1844. Of these stars, a great proportion are very close couples; in fact, Mr. Dawes seems to have been able successfully to grapple with nearly all the objects which have most severely tried the optical powers of the best foreign instruments. There are also various observations of occultations (one the occultation of a star by *Jupiter*); and I am unwilling to pass over the nearly singular observation (given to the world, I think, in another channel of communication) of *Jupiter* without any satellite visible.

To the astronomer who delights in the investigations based upon numerical measures, the observations to which I have referred will appear the most valuable. Yet, if I may venture a prediction, there are other observations by Mr. Dawes which will be cited more frequently: I allude to those on the physical appearances of the planet *Saturn*. First, the observations made in 1843 on the apparent division in *Saturn's* outer ring. Secondly, the phenomena observed in 1848, from June to December, at the disappearance of the ring. Thirdly, the independent discovery by Mr. Dawes, in 1850 November, of the dusky ring, and his subsequent observations on that wonderful appendage of *Saturn*. The last is, indeed, an admirable instance of what may be done with a comparatively small telescope, when it is used by an ardent intellect to sharpen the powers of an eye naturally acute. The astonishing phenomena of the total solar eclipse of 1851 were also observed by Mr. Dawes, who made the voyage to Sweden for that purpose.

I have thus far confined my notices to observations only, but I must not omit to remark, that astronomy is indebted to Mr. Dawes for several suggestions of extensive practical use. One of these is a series of proposals for determining a standard of optical power, and for laying down a scale of the magnitudes of stars. Another is a mode of observing the spots of the sun, which has given a more profound insight (I use the word in its geometrical and not in its metaphorical sense) into these remarkable craters than any preceding method.

I have recounted in detail these different astronomical works

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of Mr. Dawes, because it is on the assemblage of them that his claims to your honourable notice are based. Perhaps, if any one of them, or any one class of them, had been submitted to your Council, there might have been among the members of that body a disposition to examine carefully whether other single works might not be found presenting equal demands for their attention. But, in reviewing the assemblage of works—all unexceptionable in quality, of different kinds, continued through a long series of years—the Council have had no such misgiving. They feel that they have had ample grounds for recognising in the person of Mr. Dawes one of the best friends of astronomy, and in the works of Mr. Dawes, not only some of the most valuable contributions to astronomy, but also some of the most valuable patterns to future observers; and they are persuaded, that the approbation of the Society will accompany the Council's award of the Medal.

The President then delivering the Medal to Mr. Dawes, addressed him in the following terms:—

Mr. Dawes,—In the name of the Council of the Royal Astronomical Society I present you with the Medal of the Society, in acknowledgment of your long-continued devotion to astronomy, of your numerous contributions to various divisions of that science, of the remarkable excellence of your observations, and the recognised value of your suggestions. And I trust that there remain to you many years of health and happiness, many years of enjoyment of your favourite science, and many discoveries tending to the material and intellectual advance of astronomy.